

Application Number 09/907,230
Amendment in response to Office Action mailed January 5, 2006

REMARKS

This Amendment is responsive to the Office Action dated January 5, 2006. Applicants have amended claims 1-4, 6, 9, 15, 21, 23, 29 and canceled claims 5, 7 and 32. Claims 1-4, 6, 8-31 and 33-38 are now pending.

In the Office Action, the Examiner rejected claims 1-4, 6, 8-10, 12, 14-25, 27-31 and 34-38 under 35 U.S.C. 102(b) as being anticipated by Sollish (WO 98/08180); rejected claims 5 and 32 under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Sims (U.S. Patent Application No. 2002/0016919); rejected claims 7 and 11 under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Stebbings (U.S. 6,684,199); rejected claims 13 and 33 under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Bell (U.S. 6,832,319); and rejected claim 26 under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Menezes (Menezes, Alfred. Handbook of Applied Cryptography. CRC Press. 1987. page 363).

In response, Applicants have amended all pending independent claims. Relative to the former claims, the current independent claims now recite features similar to those formerly recited in dependent claims 5 and 32. However, Applicants have added further clarification to the amended features (formerly of claims 5 and 32) to even more clearly distinguish all of the applied references.

Claim 1 recites a method of preventing creation of unauthorized and accessible copies of a medium comprising receiving input from a user, receiving an access key from the medium, wherein the access key facilitates access to digital content on the medium and includes uncorrected data and associated error correction information, wherein the error correction information of the access key includes one or more errors, and controlling access to the digital content on the medium based on the input and the uncorrected data. As amended, claim 1 now further clarifies that controlling access to the digital content on the medium includes copying the digital content from the medium to a second medium, applying the error correction information to the uncorrected data to produce a second access key that is modified relative to the access key that facilitates access to the digital content on the medium due to the application of the error correction information to the uncorrected data, and copying the second access key to the second medium. The other independent claims have been amended in a similar fashion.

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The current amendments are not identical to the features formerly recited in claims 5 and 32, but these former claims conveyed similar concepts to the current amendments. In the Office Action, the Examiner rejected former claims 5 and 32 as being under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Sims. Applicants respectively traverse these rejections to the extent such rejections may be considered applicable to the amended claims. Neither Sollish nor Sims (either alone or in combination) discloses or suggests the inventions defined by Applicant's claims.

Applicants' claimed invention is directed to purposely including errors in the error correction information of an access key, which facilitates access to digital content on a medium. When the digital content and the access key is copied to another medium, then the erroneous error correction information is applied so that a "corrected" second access key copied to the second medium is modified relative to the original access key that facilitates access to the digital content on the source medium. This modification to the second access key is due to the application of the error correction information of the original access key when copied, and generally produces the second access key in a modified form. The copied digital content on the new medium, then, will be inaccessible insofar as the second access key is modified from the original access key. A user, for example, would have no way to know the second access key, making it impossible for a user to access the digital content. Furthermore, the second access key produced and stored on the medium during the copy process may not match stored keys necessary to cryptographically unlock the digital content.

The copy protection system of Sollish is very different from the features recited in Applicants' claims. The Examiner is relying upon a passage of Sollish on pages 24-25 and page 17 as suggesting an access key that includes erroneous error correction information. The current amendments clearly distinguish the claimed invention from the passages of Sollish on page 17 and pages 24-25. For example, on page 17, Sollish teaches that overriding of an error correction code (ECC) is accomplished by causing a non-correctable pattern of erroneous symbols to occur in the ECC portion of a codeword. Sollish describes use of a non-correctable error pattern that is immediately recognized by the ECC decoder as being non-correctable. Sollish further indicates that the ECC decoder will not even attempt to change the values of any symbols of an ECC codeword that are corrupted by the detected non-correctable error pattern.

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Applicants' pending claims now require the antithesis of this teaching of Sollish at page 17, i.e., application of the error correction information to the uncorrected data to produce a second access key when copying a storage medium. Furthermore, according to Applicants' claims, the second access key is modified relative to the access key that facilitates access to the digital content on the medium due to the application of the error correction information to the uncorrected data.

Unlike Sollish, which indicates that the decoder will not even attempt to change values of any symbols of an ECC codeword that are corrupted, Applicants' claims specifically require application of the erroneous error correction information. According to Applicants' claims, this causes generation of a new key (i.e., a second key), which, due to the application of the erroneous error correction information, is modified relative to the access key that facilitates access to the digital content on the medium. Accordingly, content is inaccessible on a second medium that includes the second access key.

The Examiner's argument that a person of ordinary skill in the art would have been motivated to modify Sollish in view of Sims is flawed with respect to Applicants' amended claims. Even if Sims could be reasonably construed as suggesting the application of erroneous error correction information to an access key to produce a corrupted access key (which Applicants dispute), the incorporation of such features into Sollish would contradict the teaching of Sollish. For example, insofar as Sollish teaches the use of errors in the ECC to block the decoder from even attempting to apply the ECC, a person of ordinary skill in the art would have consciously avoided any modification of Sollish, as suggested by the Examiner in the former rejections of claims 5 and 32. In other words, Sollish teaches the use of errors in the ECC to make the ECC unusable and to block any application of the ECC. A person of ordinary skill in the art would not have modified Sollish to apply an erroneous ECC to data, nor would such a modification even be possible according to the teaching of Sollish. To be sure, Sollish indicates that the decoder is blocked from even attempting to apply the ECC that includes errors.

Furthermore, Sims does not suggest the application of erroneous error correction information to an access key to produce a new access key unknown to the user. On the contrary, Sims appears to be very similar to the teaching of Sollish at pages 23-24, which suggests including errors into a data portion of a codeword, and not within error correction information.

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Indeed, the cited passage of Sims states that information (not error correction) is encoded as errors. Moreover, Sims specifically states that the encoded errors are predetermined to be correctable, such as through CRC error correction algorithms. See paragraph 0047, lines 10-13. Thus, Sims does not suggest the use of erroneous error correction information in any way, but teaches the application of CRC to correct errors in data.

In short, Sims does not suggest the application of erroneous error correction information to an access key to produce a new access key that is modified relative to the access key that facilitates access to the digital content, but even if Sims did suggest such features, the incorporation of such features into the system of Sollish contradicts the teaching of Sollish. For each of these reasons, the former rejections of claims 5 and 32 were inappropriate, and should not be maintained against the current amendment independent claims.

Applicants also believe that all other pending rejections have been clearly overcome by virtue of the current amendments. Applicants have specifically focused the arguments above to respond to the former rejections of claims 5 and 32, which appear to be most pertinent to the current claim amendments. However, Applicants also traverse all other rejections to the extent such rejections might be considered applicable to the amended claims. None of the applied references discloses or suggests the application of error correction information to uncorrected data of a first access key to produce a second access key, wherein the second access key is modified relative to the access key that facilitates access to the digital content on the medium due to the application of the error correction information to the uncorrected data.

In view of the claim amendments and comments above, Applicants believe that all pending claims should now be in condition for allowance. Applicants reserve further comment at this time on the dependent claims, but do not necessarily acquiesce to any of the rejections or the Examiner interpretations of the applied references.

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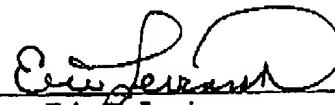
Applicants respectfully request reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 09-0069. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

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4/3/06

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